

Permit Fact Sheet

General Information

Permit Number:	WI-0065943-02-0
Permittee Name:	Medline Industries, Inc.
Address:	700 W. North Shore Drive
City/State/Zip:	Hartland, WI, 53029
Discharge Location:	Storm water infiltration basin on the south east corner of Medline Industries property located at 700 W. North Shore Drive in Hartland, WI. (Lat: Long:)
Receiving Water:	Groundwater of the Bark River LR13 Watershed, via stormwater infiltration basin in Waukesha County
StreamFlow (Q _{7,10}):	N/A
Stream Classification:	N/A

Facility Description

Medline Industries, Inc in Hartland, WI manufactures and packages medical, pharmaceutical, and over-the-counter products, and purified water. The primary raw materials used in the processes are water, surfactants, glycerine, common salt and fragrances. Additional purified water capacity was added to the facility during 2017 and 2018. The facility uses Hartland municipal water supply at a volume of approximately 94,500 gallons per day. Equipment is rinsed with warm reverse osmosis water, ambient ozone treated water, and ambient RO water. The process wastewater is then transferred to a holding tank where it is mixed with existing non-contact cooling water and reverse osmosis regeneration water before being discharged to a stormwater infiltration basin located on the southeast corner of the property. The stormwater basin is approximately 0.33 acres in size and is designed for infiltration to groundwater. The basin was modified in 2020 and 2021 to include a gravel infiltration trench connecting to the underlying in-situ gravel layer below the basin bottom. Water softener recharge wastewater, process wash water and sanitary waste are sent to the Delafield-Hartland WWTP for further treatment. The Department has found the facility to be in substantial compliance with the current permit.

Sample Point Designation		
Sample Point Number	Discharge Flow, Units, and Averaging Period	Sample Point Location, WasteType/sample Contents and Treatment Description (as applicable)
001	Average discharge flows (per 2021 permit application) NCCW – 200 GPD RO Regeneration – 55,000 gpd Saline Wash Water – 4,000 gpd	Discharge of residual line wash water from saline solution process line, non-contact cooling water, and reverse osmosis regeneration water to the storm water infiltration basin. Grab samples shall be collected from the manhole east of the main entrance after all discharge streams have combined.

1 Land Treatment – Proposed Monitoring and Limitations

1.1 Sample Point Number: 001- Storm Water Infiltration Basin

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		gpd	Monthly	Estimated	See 'Flow Rate' section in the permit.
pH Field	Daily Max	9.0 su	Monthly	Grab	See 'Grab Sample' section in the permit.
pH Field	Daily Min	6.0 su	Monthly	Grab	See 'Grab Sample' section in the permit.
Chloride		mg/L	Monthly	Grab	See 'Grab Sample' section in the permit.
Oil & Grease (Hexane)		mg/L	Quarterly	Grab	See 'Grab Sample' section in the permit.
Nitrogen, Ammonia (NH ₃ -N) Total		mg/L	Quarterly	Grab	See 'Grab Sample' section in the permit.

1.1.1 Changes from Previous Permit:

Total suspended solids monitoring was removed from the proposed permit.

1.1.2 Explanation of Limits and Monitoring Requirements

Flow Rate: An estimate of the average daily flow performed monthly will be sufficient to assure that the facility is aware of the loading to the seepage area. An estimate means a reasonable approximation of flow based on any of the following: (a) water balance; (b) an uncalibrated weir; (c) calculations from the velocity and cross section of the discharge; (d) intake water meter readings where the intake, or a specific portion of it, is discharged; (e) discharge water meter readings; and (f) any of the more complex methods listed in section NR 218.05(1), Wis. Adm. Code. The Department may approve additional methods for estimating flow.

pH: Section NR 140.20(2)(a), Wis. Adm. Code, states the preventive action limit for pH field shall be one pH unit above or below the pH of the background water quality. The Department does not have background water quality data for groundwater at this location therefore a 6.0 – 9.0 s.u. daily pH range is included in the proposed permit.

Chloride: Monthly monitoring for chloride is continued in the proposed permit, as the discharge contains chloride from the saline solution wash water discharge. Since chloride is not significantly treated by the soil, the chloride level of the wastewater treated on land shall be minimized to the extent that is technically and economically feasible to minimize chloride in the groundwater. The goal is to protect groundwater quality and prevent exceedance of the 125 mg/L groundwater preventative action limit listed in ch. NR 140, Wis. Adm. Code. The average chloride concentration from data collected during the previous permit term (January 2017 through October 2021) was 171.18 mg/L. Data collected during the proposed permit term will be evaluated to determine the need for establishing a design management zone through installation of groundwater monitoring well(s) per the Schedules section of the permit to better assess appropriate responses under s. NR 140.24, Wis. Adm. Code.

Total Suspended Solids: Monitoring only for Total Suspended Solids (TSS) was included in Medline's first permit issuance, though concentrations were not expected to be at a level of concern. This was confirmed by data collected

March 2018 through June 2021, with the average total suspended solids concentration being 0.20 mg/L over that period. Therefore, monitoring for TSS has been removed from the proposed permit.

Oil & Grease (Hexane): Quarterly monitoring for oil and grease is included in the proposed permit as it is similar to that of the noncontact cooling water general permit and will provide the facility and the Department an indication of possible cross contamination with process wastewaters and the need for potential corrective action. While the average hexane concentration collected during the previous permit term (March 2018 through December 2020) of 0.38 mg/L is well below the NCCW general permit limits of 40 mg/L, quarterly monitoring is also continued in the proposed permit to be evaluated during the next permit reissuance.

Ammonia Nitrogen (NH₃-N): The average Ammonia Nitrogen concentration collected during the previous permit term (December 2018 through September 2019) was 0.03 mg/L. While these concentrations are below the 0.97 mg/L Preventative Action Limit (PAL) for groundwater, ammonia nitrogen is a public health related groundwater standard in ch. NR 140, Wis. Adm. Code. Therefore, quarterly monitoring is continued in the proposed permit.

2 Schedules

2.1 Groundwater Monitoring Program & Well Installation

Required Action	Due Date
Annual Chloride Progress Report #1: Provide an annual report on chloride levels, including an analysis of trends in monthly and annual average chloride concentrations relative to a target value of 125 mg/L. The permittee shall also detail any enacted or proposed changes in operations at the facility intended to reduce chloride concentrations or loading to the infiltration basin.	12/31/2022
Annual Chloride Progress Report #2: Submit the chloride progress report as defined above.	12/31/2023
Final Report: Submit a final report on chloride. If the target value of 125 mg/L cannot be achieved, then the permittee shall propose a groundwater monitoring program for review and approval that will characterize the effluent quality at the extent of the design management zone or property boundary (whichever is less) relative to background concentrations. For this purpose, the design management zone shall extend no greater than 50 feet horizontally from the outside edge of the gravel trench in the infiltration basin.	12/31/2024
Plans and Specifications: Submit plans and specifications for installation of monitoring wells.	06/30/2025
Begin Construction: Initiate construction of monitoring wells.	12/31/2025
Construction Update: Submit a progress report on construction of the monitoring wells.	06/30/2026
Well Installation: Complete well installation in accordance with ch NR 141, Wisconsin Administrative Code. (Note: Documentation of well construction must be submitted to the Department within 60 days of well installation.)	12/31/2026

2.1.1 Explanation of Schedule

A schedule is included to provide time for the permittee to evaluate chloride levels in the discharge, submit a report on chloride to the Department, and if the target value cannot be achieved, construct groundwater monitoring wells to evaluate the impact of the chloride discharge to groundwater.

Attachments:

Substantial Compliance Determination, dated August 13, 2021 and prepared by Nick Lent.

Proposed Expiration Date:

December 31, 2026

Justification Of Any Waivers From Permit Application Requirements

No waivers were given from permit application requirements.

Prepared By: Lisa Creegan, Wastewater Specialist

Date: December 7, 2021

Date (post-fact check): N/A

Date (post-public notice):